

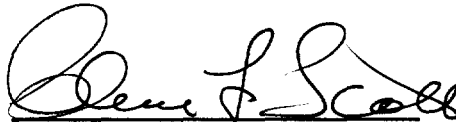
Senior Composition Recital

An Honors Creative Project
(HONORS 499)

by

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A handwritten signature in black ink, reading "Cleve L. Scott". The signature is written in a cursive style with a horizontal line underneath the entire name.

Ball State University
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Purpose of Creative Project

Each composition presented on this recital was undertaken as an attempt to correlate materials learned in a variety of classes while at Ball State University. The interdisciplinary nature of the Music Engineering Technology program provided the resources to accomplish this task. The required knowledge of physics, analog sound synthesis, and twentieth century electronic music led to *Reflections (Studies in Analog Synthesis)*. The two acoustic compositions *Mechanism I* and *Mechanism II* combine skills learned in music composition, music perception, music history, instrumentation, orchestration, etc... Furthermore, performance considerations learned in the required instrument performance minor were valuable in writing playable pieces. The use of computers to generate and control music in *Sculptured Sound* added a further dimension. The last piece written for the recital, *Tension Derivation*, utilized information from all of the aforementioned areas as well as ideas imported from outside the realm of class work. This composition is an electroacoustic work which consists of acoustic instrumentation with electronically derived sounds. The ultimate objective of these compositions was to reach a familiarity with the material necessary to produce compositionally relevant music in any style.

Reflections (Studies in Analog Synthesis)

This piece bears the fruit of my first encounters with analog synthesis. The sounds were created on the Serge Modular System and the Korg MS20 synthesizers. The analog synthesis techniques used in this piece include Frequency Modulation both audio and sub-audio, Amplitude Modulation, and filtering. This is accomplished by physically connecting or "patching" various voltages from wave generators, voltage control amplifiers, voltage control filters, envelope generators, triggers, etc... to create sounds.

Mechanism I

Mechanism I is the result of a four year evolution. It began the summer before my sophomore year while playing guitar through a delay unit. Within a short time of composing the main theme, I had fashioned a short song, three sections in length. Realizing that I liked what I had but that it was unfinished, I left the song for a while. About one year later, I was asked to play a song on guitar for a friend. Choosing to play this unrefined composition, I realized that bass notes would help solidify the form by making the key structure more apparent. This song was to become *Mechanism I*. In this state the song remained untouched until Fall semester 1992. I was leaving recital hour having just heard two pieces played on marimba. As I walked, I was singing to myself. The song was *Mechanism I*. However, the instrument playing was no longer guitar; it was marimba. It was at this point that I realized that this little song on my guitar could be an acceptable, academic piece to be performed on my recital.

The basic concept of *Mechanism I* is a minimalistic treatment of a tonal gesture. In addition, I brought forth a philosophy that a piece written for an instrument should be unique to that instrument. As a result, I set out to expand the ideas present on guitar to involve the marimba in a capacity that would make performance on the guitar impossible. I wanted to keep the effect originally heard using the delay unit present on the marimba. This was accomplished

through a percussive technique called double sticking. Essentially, it means hitting the same note twice within its written note duration. Due to the layout of the marimba, it was possible to continue the effect of double sticking an octave apart. This led to an interesting psychoacoustic phenomena. In the sections of the piece composed of long passages of sixteenth notes, changing the placement of the upper octave from on the beat (the first sixteenth note of a two note group) to the anacrusis (the second note of the group), causes the ears' sense of the location of beat one to slowly change until the upper octave is perceived to be on the beat. Upon switching the upper octave back to beat one or placing a low note on beat one, the ear must suddenly redefine its perception of the location of the downbeat.

Another major component of the composition is the use of the original eight note pattern as well as variations on the pattern seven, six, and five notes in length. These different note groups provide the necessary deviation to keep the audience interested in listening to a very repetitive melodic statement. During the eighth note sections of the piece, these different note groups used simultaneously created counterpoint the complexity of which was controlled by the number of note groups being played, their register, and the point of entry of each group. The easiest counterpoint to hear would be counterpoint at the octave using note groups of the same length one or two beats apart. The hardest counterpoint for the ear to follow would be all four note groups starting at once in the same register. This would give the effect of a sound texture: notes would be heard, but their relationship probably would not. By varying the degree of contrapuntal complexity, I created a sense of tension and release. I created form. Most importantly, I created a piece that could be enjoyed by a musically educated audience as well as a general concert audience.

The piece was originally written for two marimbas; however, it was revised for four marimbas to facilitate a good performance in time for my recital. For the future, I plan to keep the version for two marimbas as well as write a version for four marimbas to be played by high school and college marimba ensembles.

Tension Derivation

Tension Derivation was originally conceived as a piece for manipulated versus non-manipulated violins. All of the parts in the non-manipulated (acoustic) score were performed by Nelson Dougherty and recorded one track at a time in both the digital and the analog domains. The manipulated violin sounds were derived from these recordings using classic studio techniques in the digital realm available within the Macintosh application Sound Designer II. These manipulated sounds provide contrast to the violin section.

The graphic score for *Tension Derivation* was carefully drawn on graph paper. The horizontal scale represents time while the vertical scale represents frequency. Graph paper as opposed to the traditional five-line staff was used for the ability to represent half-steps as equally spaced distances. This allows the performer to see the exact relationship between distance and pitch. This relationship resulted in a very accurate performance of the score with considerably less rehearsal than would have been needed if a traditional score were used.

Sculptured Sound

Sculptured Sound is the result of a semester-long project for MusTh 434. The compositional material was created using the computer language APL and subroutines called MPL. The melodic content consists of circles of perfect fourths and tritones creating periodic patterns of varying note numbers. Six of these patterns were used, each being a factor of 288 in length. A rhythm and a tempo were assigned to each line, and this information was sent to the Mark of the Unicorn sequencer application Performer. The sounds triggered by this Performer file were created using the Kawai K5m, the Yamaha TX802, and the Yamaha TX816 digital synthesizers. The Kawai uses additive synthesis, while the Yamaha equipment uses Frequency Modulation synthesis. These sounds were mixed using the Yamaha DMP11 digital mixing processor. This mixer was also

controlled by the Performer file allowing adjustment of individual panning and volume levels from within the "score."

Mechanism II

Mechanism II is written for woodwind quintet. This piece was started Spring semester 1991, and was completed Spring semester 1993. Its melodic content consists of a four note pitch class set and many of its transpositions. The intervals of the prime set are major second, minor second, and minor third. The most commonly used transposition is the tritone. Since the prime set has a distance of a tritone from its first to fourth note, the transposition at a tritone starts on the last note of the prime set and ends on the first note of the prime set thus adding only two new notes. The use of these interlocking sets provide the fundamental melodic organization of the composition. Rhythmically, *Mechanism II* employs a consistent, mechanical quarter note pulse. This pulse is most often subdivided in two and four; however, the use of hemiola and an occasional five notes against four provide contrast to the strong pulse. Dynamics and orchestration provide other prominent sources of contrast. The resulting textures created a heightened sense of structure in addition to a sense of drama and excitement.

Due to the unavailability of an oboe player, the score was revised to incorporate soprano saxophone. This was not a change I wish to keep. The timbre and performance characteristics of the saxophone are significantly different enough that it cannot play the role of an oboe in this piece. The slightly harsher sound and the absence of a comfortable pianissimo dynamic level in the register scored for oboe resulted in the saxophone gaining an undesired prominence in the overall texture.

Mechanism I

Matthew Owen

Marimba 1 *mf* $\text{♩} = 140$

Marimba 2 $\text{♩} = 140$

Marimba 3 $\text{♩} = 140$

Marimba 4 $\text{♩} = 140$

1

m 1 *pp*

m 4

5

m 1

m 4

10

m 1 *f simile*

m 4

15

m 1

19

m 1

24

m 1

29

m 4

29

f

m 1

34

m 2

34

m 4

34

(upper 8ve louder)

f

p

mf

m 2

38

m 4

38

m 2

41

m 4

41

m 2
44

m 4
44

m 2
47

m 4
47

m 2
50

m 4
50

f (both 8ve)
m 2
53

m 2
56

m 2
59

m 2
62

m 2
 65
 m 4
 65 *f*

m 2
 68
 m 4
 68

m 1
 71
 m 2
 71
 m 4
 71

m 1
 74
 m 2
 74

m 1
 79
 m 2
 79

The musical score for 'The Rose Tree' is presented in two systems. The first system, labeled 'm 1', contains measures 84 through 87. The second system, labeled 'm 2', contains measures 88 through 91. The music is written for two voices, with the first voice part on the upper staff and the second voice part on the lower staff. The key signature is one flat (B-flat), and the time signature is 4/4. The melody is characterized by a series of eighth and sixteenth notes, often beamed together. The lyrics 'The Rose Tree' are written below the first voice part, and 'The Rose Tree' is written below the second voice part. The score is marked with a 'V' at the beginning of each line, indicating a vocal entry. The first system ends with a double bar line, and the second system continues the melody. The score is marked with a 'V' at the beginning of each line, indicating a vocal entry. The first system ends with a double bar line, and the second system continues the melody. The score is marked with a 'V' at the beginning of each line, indicating a vocal entry. The first system ends with a double bar line, and the second system continues the melody.

Musical score for two parts, *m 1* and *m 2*. Both parts are in treble clef with a key signature of one flat (B-flat). The score consists of five measures. Part *m 1* features a melody of eighth notes with accents (v) over the first, third, and fifth notes of each measure. Part *m 2* features a melody of eighth notes with accents (v) under the first, third, and fifth notes of each measure. Both parts start at measure 89.

94

m 1

m 2

m 3

94

99

m 1

m 2

m 3

m 4

99

This musical score is for the song "The Rose Tree" in G major, 2/4 time. It consists of four staves. The first three staves are for vocal parts (Soprano, Alto, and Tenor) and the fourth is for the piano accompaniment. The key signature has one sharp (F#), and the time signature is 2/4. The score is divided into four measures. The first measure contains the vocal entry and the piano accompaniment. The second measure continues the vocal melody and the piano accompaniment. The third measure features a vocal solo for the Soprano part, while the other parts have rests. The fourth measure concludes the phrase with a vocal flourish and the piano accompaniment. The score is marked with a "99" at the beginning of the first and fourth staves, indicating the page number.

m 1
 104
 m 2
 104
 m 3
 104
 m 4
 104

m 1
 108
 m 2
 108
 m 3
 108

m 1
 113
 m 2
 113
 m 3
 113

m 1
 118
 m 2
 118
 m 3
 118
 m 4
 118

m 1
 123
 m 2
 123
 m 3
 123
 m 4
 123

m 1
 127
 m 2
 127

m 1
 130
 m 2
 130
 m 4
 130

m 1
 133
 m 4
 133

m 1
 136
 m 4
 136

m 1
 139
 m 4
 139

—

m 1 143

m 4 143

143

m 1 147

m 4 147

147

—

m 1 152

m 4 152

152

m 1 156

156

m 1 159

159

m 1 162

162

m 1

165

m 1

168

m 4

m 1

171

m 4

m 1

174

m 2

174

m 3

174

m 4

174

177

m 1

m 2

m 3

m 4

pppp

ppp

pppp

ppp

pppp

ppp

pppp

ppp

182

m 1

m 2

m 3

m 4

pp

mp

f

ff

fff

pp

mp

f

ff

fff

pp

mp

f

187

m 1

m 2

m 3

m 4

ff

f

fff

ff

f

fff

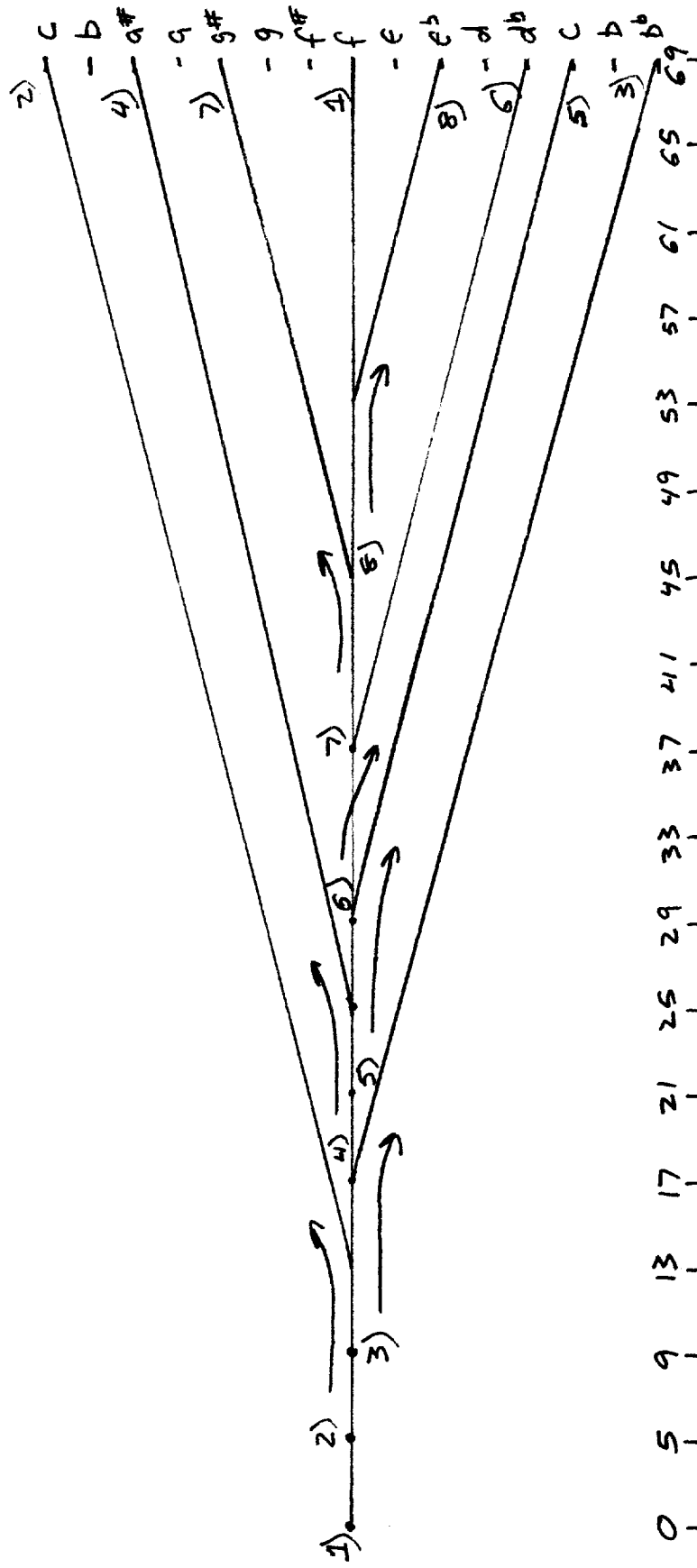
ff

f

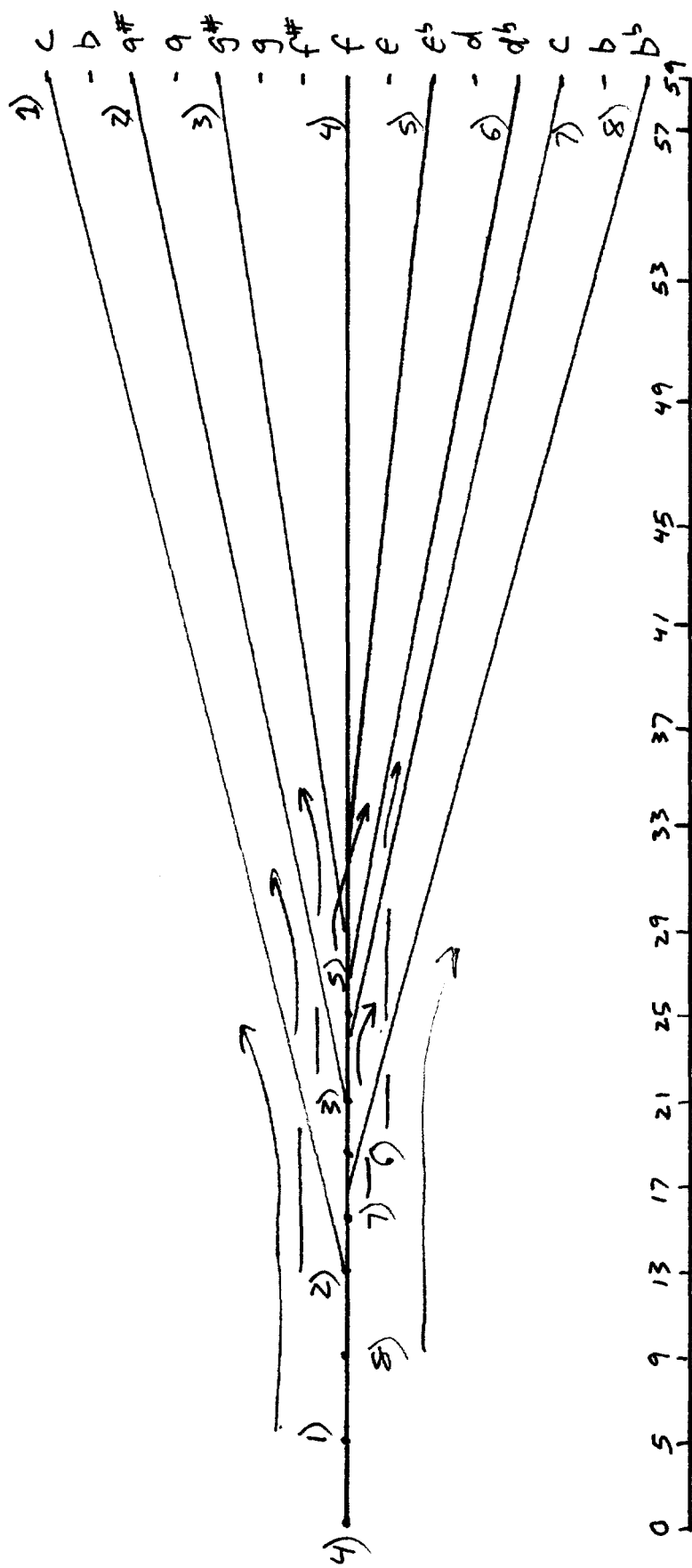
m 1 192 *fff* *mp* *p*
 m 2 192 *fff* *mp* *p*
 m 3 192 *fff*
 m 4 192 *p*

m 1 197 *ppp*
 m 2 197 *ppp* *dim.* *pppp* (fade to nothing)
 m 3 197 *ppp* *dim.* *pppp* (fade to nothing)
 m 4 197 *ppp* *dim.*

Tension Derivation



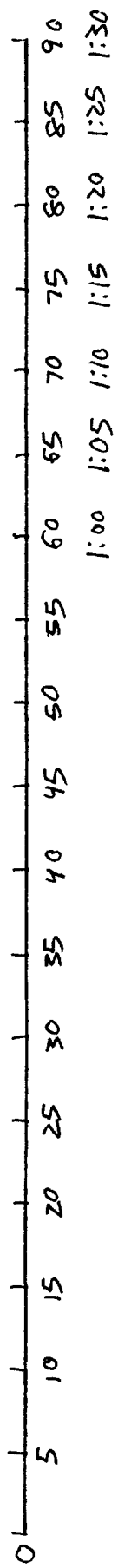
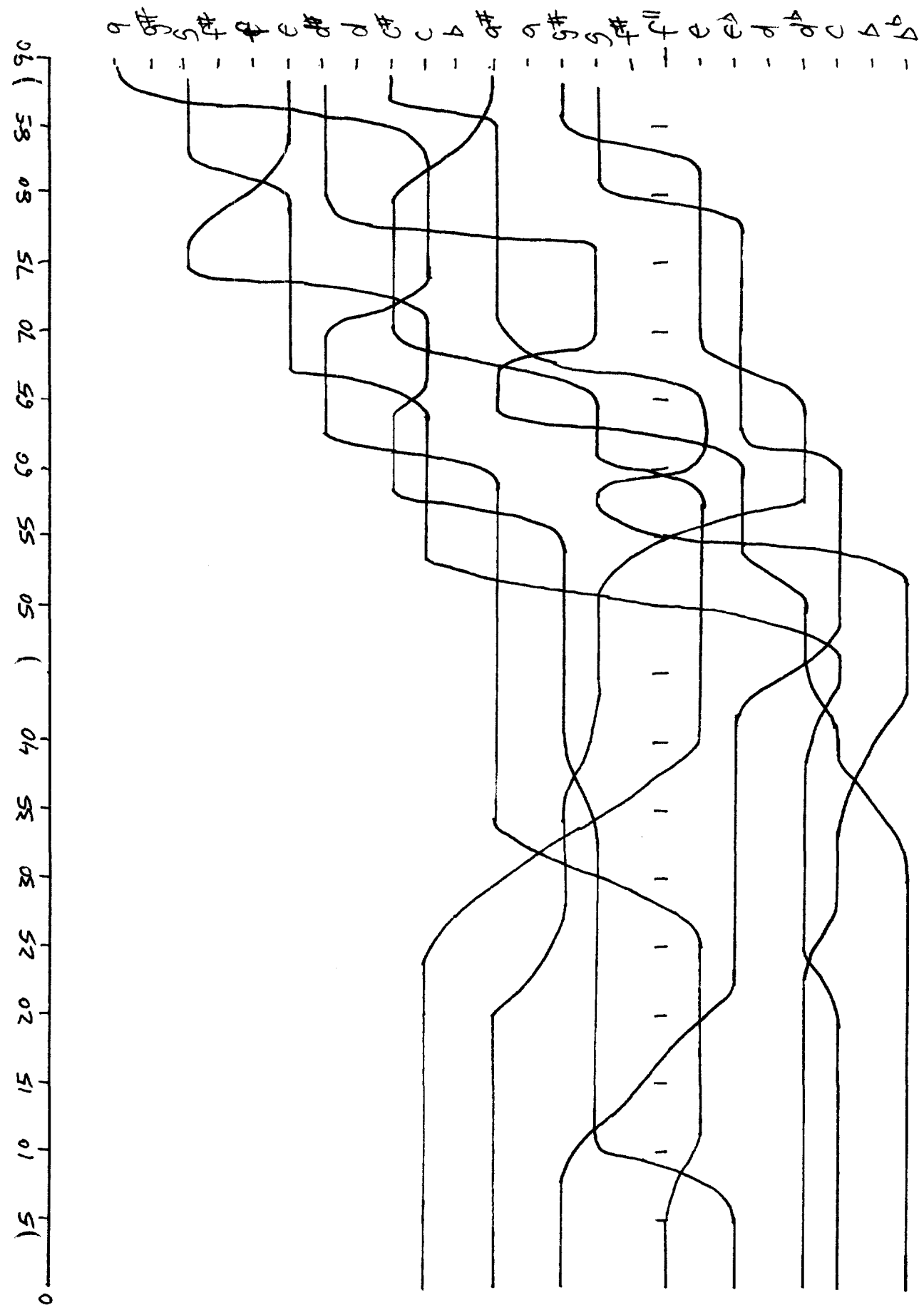
Time in Seconds



acce|

Time in Seconds

P. + C R



Tremolo

Aggressive

Lighter

g ————— 23

g# ————— 13

g ————— 19

f# ————— 17

f ————— 15

e ————— 21

e# ————— 11

d ————— 27

5 9 13 17 21 25 27

fff  ppp

Tremolo

Aggressive

Lighter

g ————— 23

$\frac{1}{4}$ ————— 15

$f^\#$ ————— 19

$\frac{1}{4}$ ————— 17

f ————— 16

$\frac{1}{4}$ ————— 21

e ————— 14

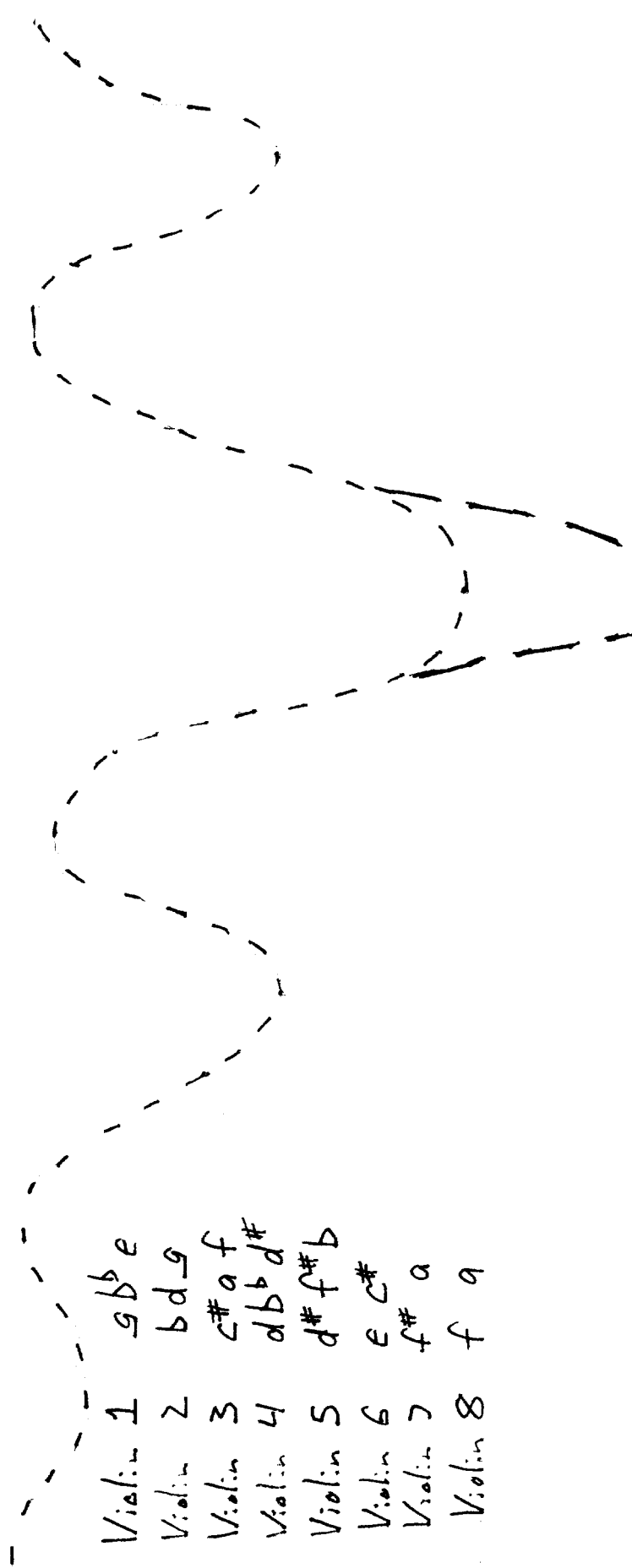
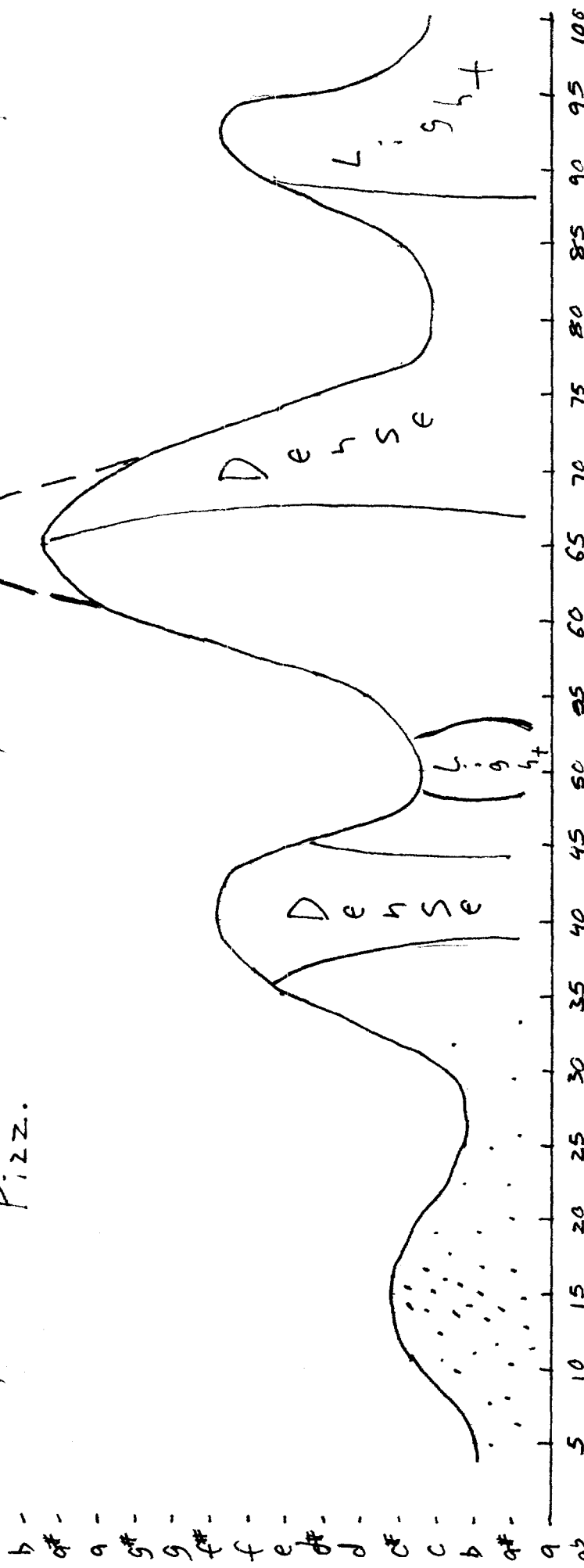
$\frac{1}{4}$ ————— 27

5 9 13 17 21 25 27

fff

ppp

Pizz.



Mechanism II

Matthew Owen

Flute

Oboe

Clarinet

Horn in F

Bassoon

1

82

mf

Fl.

Ob.

Cl.

F Hn.

Br.

7

mp

mf

pp

Fl.

Ob.

Cl.

F Hn.

Br.

14

p

mp

mf

mp

mp

19

FL. *mp* *ff* sub. *p*

Ob. *mp* *ff* sub. *p*

Cl. *mp* *ff* *mf* sub. *mp*

F Hn. *mp* *ff* *mf* sub. *mp*

Bn. *mp* *ff* sub. *mp*

24

FL. *p*

Ob. *f* *mp*

Cl. *p* *p*

F Hn. *f* *p*

Bn. *f* *p*

31

FL. *pp* *p* *mf* slower $\text{♩} = 72$

Ob. *pp* *p* *mf* *ff* *f* *dim.* *mp*

Cl. *p* *ff* *fff* *mp*

F Hn. *pp* *p* *mf* *ff* *dim.* *f*

Bn. *pp* *p* *ff* *fff* *dim.* *f*

Fl. *accel.* *a tempo*
38 *mp*

Ob. 38

Cl. *mf*

F Hn. *mp*

Bn. *mp*

Fl. 44

Ob. 44

Cl. 44 *f*

F Hn. 44 *ff*

Bn. 44 *ff*

Fl. 49 *mf* *f*

Ob. 49 *mf*

Cl. 49 *mf* *f*

F Hn. 49 *f* *mf*

Bn. 49 *mf* *f*

Fl. 54

Ob. 54

Cl. 54

F Hn. 54

Bn. 54

Fl. 58

Ob. 58

Cl. 58

F Hn. 58

Bn. 58

pp *mp*

mf *pp* *mf*

ff

Fl. 63

Ob. 63

Cl. 63

F Hn. 63

Bn. 63

ff *p* *ff*

ff *p* *ff*

ff *p* *ff*

ff

FL. 68 *p* *fff* *f* *pppp* *f*

Ob. 68 *p* *fff* *f* *pppp*

CL. 68 *f* *pppp*

F Hn. 68 *p* *fff* *f* *pppp*

Bn. 68 *p* *fff* *f*

FL. 74 *f*

Ob. 74

CL. 74 *mf*

F Hn. 74 *mf*

Bn. 74

FL. 79

Ob. 79 *mf*

CL. 79 *mp*

F Hn. 79 *f*

Bn. 79

FL. *mp* *mf*

Ob. *f* *f*

Cl. *mf* *mf*

F Hn. *mf* *mp*

Bn. *mp*

84

FL. *f*

Ob. *mp* *f*

Cl. *mf*

F Hn.

Bn. *mf*

89

FL. *ff*

Ob. *mf* *ff*

Cl.

F Hn. *f*

Bn.

94

FL 98 *ff* *ff*

Ob. 98 *ff*

CL 98 *ff*

F Hn. 98 *mf*

Bn. 98 *f*

FL 101

Ob. 101

CL 101 *f*

F Hn. 101 *f*

Bn. 101 *f*

FL 104 *ff*

Ob. 104

CL 104

F Hn. 104

Bn. 104

108

Fl. *ff*

Ob. *ff*

Cl. *ff*

F Hn. *f*

Bn.

112

Fl. *ff*

Ob. *ff*

Cl. *ff*

F Hn. *ff*

Bn. *ff*

117

Fl. *mf*

Ob. *f* *mf*

Cl. *mf* *f*

F Hn. *f* *mf*

Bn. *f*

122

Fl. *mf* *pp* *p* *p* *pp* *pp*

Ob. *mf* *pp* *p* *p*

Cl. *p* *p* *pp*

F Hn. *mf* *pp* *p*

Bn. *mf*

rit. ♩ = 88

rit. ♩ = 78

131

Fl. rit. ♩ = 72 *rit.* *dim.*

Ob.

Cl. *pppp*

F Hn. *ppp*

Bn.

131